

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-16 are currently pending. Claims 1-4, 15, and 16 have been amended by the present amendment. The changes to the claims are supported by the originally filed specification and do not add new matter.<sup>1</sup>

In the outstanding Office Action, Claims 1-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,719,861 to Okanoue (hereinafter “the ‘861 patent”) in view of U.S. Patent No. 6,304,556 to Haas (hereinafter “the ‘556 patent”) and U.S. Patent No. 7,058,706 to Iyer et al. (hereinafter “the ‘706 patent”); and Claim 16 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘861 patent in view of the ‘706 patent.

Amended Claim 1 is directed to a node search method for searching for a new service node for providing a service to a mobile node, in a mobile communication system including a plurality of service nodes and the mobile node, each of the service nodes and the mobile node having a node storage unit configured to store addresses of service nodes, the node search method comprising:

transmitting a node search packet to search for the new service node from a search node, which searches for the new service node, to a search packet reception node having an address stored in the node storage unit of the search node;

*transmitting a node notice request packet from the search packet reception node to a peripheral node having an address stored in the node storage unit of the search packet reception node, the address of the peripheral node not being stored in the node storage unit of the search node;*

returning a node notice packet from the search packet reception node to the search node, in response to the node search packet;

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<sup>1</sup> See, e.g., page 25, line 1 to page 30, line 18; and page 52, lines 1-25 of Applicants’ specification.

*transmitting the node notice packet from the peripheral node to the search node, in response to the node notice request packet;*

*detecting the new service node based on the returned node notice packet from the peripheral node, by the search node;*

updating the node storage unit of the search node based on the new service node detected by the search node; and

transmitting data for investigating node information from the search node to the detected new service node, the data for investigating node information including a request for a delay value and a number of hops in a packet transmission between the search node and the detected new service node.

Regarding the rejection of Claim 1 under 35 U.S.C. § 103(a), the outstanding Office Action cites the ‘861 patent for teaching all of the limitations of Claim 1, except a mobile communication system or mobile nodes, and transmitting to the detected service node, by the search node, data for investigating node information concerning the detected service node, the data for investigating node information including a request for a delay value and a number of hops in a packet transmission between the search node and the detected service node. The Office Action, however, cites the ‘556 and ‘706 patents for such teachings.

The ‘861 patent is directed to an automatic route determination method. In particular, the ‘861 patent discusses a mesh-type network including nodes N1-N4 each having at least a routing protocol, wherein adjacent nodes N1 and N2 are connected through a simple element R1, the adjacent nodes N2 and N4 are connected through two simple elements R3 and R4, and the adjacent nodes N4 and N5 are connected through a simple element R5.<sup>2</sup> As discussed by the ‘861 patent, simple elements R1-R5 are network elements having no routing protocol, such as a repeater or a bridge.<sup>3</sup> Regarding the determination of a route between a source node and a destination simple element, the ‘861 patent discusses that **the source node broadcasts a TARP request including the ID of the destination simple element and then waits for its**

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<sup>2</sup> See ‘861 patent, column 3, lines 40-46; also see Figure 1.

<sup>3</sup> Id. at column 3, lines 46-48.

**response.** Each of the ‘861 nodes, receiving the address request signal, further broadcasts the TARP request when neither managing nor normally communicating with the destination simple element, or sends a TARP response when the node is managing or normally communicating with the destination simple element. The ‘861 patent discusses that when the response is received from another node, the source node determines the destination address of the destination network element.<sup>4</sup>

However, it is respectfully submitted that the ‘861 patent fails to disclose transmitting a node notice request packet from the search packet reception node to a peripheral node having an address stored in the node storage unit of the search packet reception node, the address of the peripheral node not being stored in the node storage unit of the search node; and transmitting the node notice packet from the peripheral node to the search node, in response to the node notice request packet. Rather, the ‘861 patent simply discusses that when a node receives a TARP request from an adjacent node, a TARP signal processor of the node checks whether the destination address included in the data field of the received TARP request is identical to the address of the node itself or to one of its managed simple elements. The ‘861 patent further discusses that if the destination address is identical to the node itself or its managed simple elements, a TARP response is sent back to the node that originated the TARP request, **via the same path taken by the TARP request**.<sup>5</sup> Additionally, the ‘861 patent discusses that **if the destination address is not identical** to the node itself or its managed simple elements, **the node broadcasts the TARP request to all the adjacent nodes** other than the node from which the TARP request is received.<sup>6</sup>

That is, the ‘861 patent discusses that a node retransmits a TARP request if a destination address of the TARP request does not match that node or its managed simple elements; and transmitting a TARP response, when a match is identified by the node, along

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<sup>4</sup> See ‘861 patent, Abstract; and column 4, lines 4-42.

<sup>5</sup> Id. at column 6, lines 36-58; also see Figure 1.

<sup>6</sup> Id. at column 4, lines 23-28.

the same path traversed by the TARP request. The ‘861 patent does not disclose *transmitting the node notice packet from the peripheral node to the search node, in response to the node notice request packet*, and that the address of the peripheral node is *not stored* in the node storage unit of the search node, as defined in Claim 1.

Moreover, it is respectfully submitted that the ‘861 patent fails to disclose detecting the new service node based on the returned node notice packet from the peripheral node, by the search node. Rather, as noted above, the ‘861 patent simply discusses transmitting a TARP response, when a match is identified by the node, along the same path traversed by the TARP request. The ‘861 patent does not disclose *detecting the new service node* based on *the returned node notice packet from the peripheral node*, by the search node.

Further, it is respectfully submitted that the ‘566 and ‘706 patents fail to remedy the deficiencies of the ‘861 patent, as discussed above. The ‘566 patent is directed to routing and mobility management protocols for ad-hoc networks. Further, the ‘706 patent is directed to a method and apparatus for determining latency between multiple servers and a client. However, it is respectfully submitted that the ‘566 and ‘706 patents, alone or in proper combination, fail to disclose the “transmitting a node notice request packet,” the “transmitting the node notice packet,” and the “detecting,” as defined in Claim 1.

Thus, no matter how the teachings of the ‘861, ‘566, and ‘706 patents are combined, the combination does not teach or suggest the “transmitting a node notice request packet,” the “transmitting the node notice packet,” and the “detecting,” as defined in Claim 1. Accordingly, it is respectfully submitted that Claim 1 patentably defines over any proper combination of the ‘861, ‘566, and ‘706 patents.

Amended Claims 2, 15, and 16 recite limitations analogous to the limitations recited in Claim 1, although of differing class and/or scope. Moreover, Claims 2, 15, and 16 have been amended in a manner analogous to the amendments to Claim 1. Accordingly, for

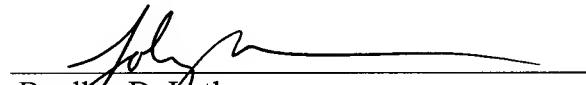
reasons analogous to the reasons stated above for the patentability of Claim 1, it is respectfully submitted that Claims 2, 15, and 16 (and all associated dependent claims) patentably define over any proper combination of the '861, '566, and '706 patents.

Thus, it is respectfully submitted that independent Claims 1, 2, 15, and 16 (and all associated dependent claims) patentably define over any proper combination of the '861, '566, and '706 patents.

Consequently, in view of the present amendment and in light of the above discussion, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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